

Table 1 (continued)

Species	Sex	Mode	Timing	Source
<b>Pacific</b>				
<b>Great Barrier Reef</b>				
<b>FAVIIDAE</b>				
<i>Goniastrea palauensis</i>	H	S	Oct, 6 Nov, 6	Willis et al. (1985) Babcock et al. (1986)
<i>Goniastrea pectinata</i>	H	S	Nov, 6	Willis et al. (1985) Babcock et al. (1986)
<i>Goniastrea retiformis</i>	H	S	Nov, 6	Willis et al. (1985), Babcock et al. (1986)
<i>Leptoria phrygia</i>	H	S	Dec Nov, 6	Kojis & Quinn (1982) Willis et al. (1985), Babcock et al. (1986)
<i>Montastrea curta</i>	H	S	Nov, 6	Willis et al. (1985), Babcock et al. (1986)
<i>Montastrea magnistellata</i>	H	S	Nov, 6	Willis et al. (1985), Babcock et al. (1986)
<i>Montastrea valenciennesi</i>	H	S	Oct, 6 Nov, 6	Willis et al. (1985) Babcock et al. (1986)
<i>Moseleya latistellata</i>	H	S	Oct, 6–8 Nov, 6	Willis et al. (1985) Babcock et al. (1986)
<i>Oulophyllia crispa</i>	H	S	Nov, 6	Willis et al. (1985), Babcock et al. (1986)
<i>Platygyra daedalea</i>	H	S	Oct, 6–7 Nov, 6–7	Willis et al. (1985), Babcock et al. (1986)
<i>Platygyra lamellina</i>	H	S	Nov, 6–7	Babcock et al. (1986)
<i>Platygyra pini</i>	H	S	Nov, 6	Babcock et al. (1986)
<i>Platygyra sinensis</i>	x	S	x Oct, 6/Nov, 6	Babcock (1984) Willis et al. (1985)
			Nov, 6–7	Babcock et al. (1986)
<b>FUNGIIDAE</b>				
<i>Fungia concinna</i>	G	S	Nov, 7–8	Willis et al. (1985)
<i>Fungia fungites</i>	G	S	Oct, 6 Nov, 6	Willis et al. (1985) Babcock et al. (1986)
<i>Fungia paumotensis</i>	G	S	Nov, 6	Willis et al. (1985)
<i>Heliofungia actiniformis</i>	G	S	Oct, 5/Nov, 5	Willis et al. (1985)
<i>Polyphyllia talpina</i>	G	S	Oct, 6/Nov, 6	Willis et al. (1985)
<i>Sandolitha robusta</i>	G	S	Nov, 6	Babcock et al. (1986)
<b>MERULINIDAE</b>				
<i>Clavarina triangularis</i>	H	S	Nov, 6	Babcock et al. (1986)
<i>Merulina ampliata</i>	H	S	Nov, 6	Babcock et al. (1986)
<i>Scaphophyllia cylindrica</i>	H	S	Nov, 6	Willis et al. (1985)
<b>MUSSIDAE</b>				
<i>Acanthastrea echinata</i>	H	S	Nov, 5–7	Willis et al. (1985), Babcock et al. (1986)
<i>Lobophyllia corymbosa</i>	H	S	Nov/Dec Nov, 6	Harriott (1983a) Willis et al. (1985), Babcock et al. (1986)
<i>Lobophyllia hemprichii</i>	H	S	Oct/Nov, 6–7 Nov, 6	Willis et al. (1985) Babcock et al. (1986)
<i>Scolymia vitiensis</i>	H	S	Nov, 6	Willis et al. (1985)
<i>Sympyllum radians</i>	H	S	Nov, 6	Babcock et al. (1986)
<i>Sympyllum recta</i>	H	S	sp-sr Nov, 6	Marshall & Stephenson (1933) Willis et al. (1985) Babcock et al. (1986)
<b>OCULINIDAE</b>				
<i>Galaxea astreata</i>	H	S	Oct/Nov, 6 Nov, 6	Willis et al. (1985) Babcock et al. (1986)
<i>Galaxea fascicularis</i>	H	S	Oct/Nov, 6 Nov, 6	Willis et al. (1985) Babcock et al. (1986)
<b>PECTINIDAE</b>				
<i>Echinophyllia aspera</i>	H	S	Oct/Nov, 7–8 Nov, 6	Willis et al. (1985) Babcock et al. (1986)
<i>Echinophyllia orpheensis</i>	H	S	Nov, 6	Babcock et al. (1986)
<i>Myoodium elephantotus</i>	H	S	Oct, 6–7/Nov, 6 Nov, 6	Willis et al. (1985) Babcock et al. (1986)
<i>Oxypora glabra</i>	H	S	Nov, 5–6	Babcock et al. (1986)
<i>Oxypora lacera</i>	H	S	Oct, 6/Nov, 6 Nov, 6	Willis et al. (1985) Babcock et al. (1986)
<i>Pectinia alcicornis</i>	H	S	Nov, 6	Willis et al. (1985), Babcock et al. (1986)

Table 1 (continued)

Species	Sex	Mode	Timing	Source
<b>Pacific</b>				
<b>Great Barrier Reef</b>				
<b>PECTINIDAE</b>				
<i>Pectinia lactuca</i>	H	S	Oct, 6	Willis et al. (1985)
			Nov, 6	Babcock et al. (1986)
<i>Pectinia paeonia</i>	H	S	Oct, 6-7/Nov, 6	Willis et al. (1985)
			Nov, 6	Babcock et al. (1986)
<b>POCILLOPORIDAE</b>				
<i>Pocillopora damicornis</i> (as <i>P. bulbosa</i> )	H	B	yr, 1-5	Marshall & Stephenson (1933)
<i>Pocillopora damicornis</i>			w, 5/sr, 1	Harriott (1983b)
<i>Seriatopora hystrix</i>	x	B	sp-sr	Sammarco (1982)
<b>PORITIDAE</b>				
<i>Goniopora columnata</i>	G	S	Oct/Nov, 6	Willis et al. (1985)
<i>Goniopora dijboutiensis</i>	G	S	Nov, 6	Willis et al. (1985)
<i>Goniopora lobata</i>	G	S	Oct, 6	Willis et al. (1985)
			Nov, 6	Babcock et al. (1986)
<i>Goniopora minor</i>	G	S	Nov, 5-6	Babcock et al. (1986)
<i>Goniopora norfolkensis</i>	G	S	Oct, 6	Willis et al. (1985)
<i>Goniopora tenuidens</i>	G	S	Nov, 6	Willis et al. (1985)
<i>Goniopora</i> sp. 1	G	S	Nov, 5-7	Babcock et al. (1986)
<i>Goniopora</i> sp.	G	S	Nov, 6	Babcock et al. (1986)
<i>Porites australiensis</i>	G	S	Oct-Jan	Harriott (1983a)
<i>Porites cylindrica</i> (as <i>P. andrewsi</i> )	G	S	Dec, 5-7	Kojis & Quinn (1981 b)
			(2-4 % hermaphroditic)	
<i>Porites cylindrica</i>			Nov, 6	Willis et al. (1985), Babcock et al. (1986)
<i>Porites lobata</i>	G	S	Dec, 1, 4-7, 8	Kojis & Quinn (1981b)
			Nov, 6	Babcock et al. (1986)
<i>Porites lutea</i>	G	S	Jan, 4-8	Kojis & Quinn (1981b)
			Nov-Jan	Harriott (1983a)
			Nov, 5-7	Babcock et al. (1986)
<i>Porites murrayensis</i>	G	B	sp-sr-f	Kojis & Quinn (1981b)
<i>Porites solida</i>	G	S	Nov, 5-7	Babcock et al. (1986)
<i>Porites stephensi</i> (as <i>P. haddonii</i> )	x	B	sr-f	Marshall & Stephenson (1933)
34G:109H:2x 8B:136S:1x				
<b>Central Pacific (Guam, Marshall, Islands, Palau)</b>				
<b>ACROPORIDAE</b>				
<i>Acropora bruggemannii</i>	x	B	yr	Atoda (1951a)
<i>Acropora cerealis</i>	H	x	sr	Heyward (1989)
		S	Jul, 4-5	this study
<i>Acropora corymbosa</i> <sup>a</sup>	x	B	Jun/Jul, 1-4	Stimson (1978)
<i>Acropora delicatula</i> <sup>b</sup>	*	*	*	this study
<i>Acropora humilis</i>	x	B	Jun/Jul, 1-3	Stimson (1978)
	H	S	Aug, 7	this study
<i>Acropora hystric</i> <sup>c</sup>	H	S	sr	Heyward (1989)
<i>Acropora irregularis</i> <sup>d</sup>	H	x	sr	Heyward (1989)
		S	Aug, 4-7	this study
<i>Acropora nasuta</i>	H	S	Jul, 7	this study
<i>Acropora ocellata</i>	H	S	Jul, 5-6	this study
<i>Acropora palawensis</i>	x	B	x	Kawaguti (1940) in Fadlallah (1983)
<i>Acropora smithi</i> <sup>e</sup>	H	x	sr	Heyward (1989)
		S	Jul/Aug, 6-7	this study

Note: all taxonomic assignations for Central Pacific are according to Randall (1983, pers. comm.) and samples of each species are deposited in the University of Guam Marine Laboratory reference collection

<sup>a</sup> Synonymized with *A. cytherea* by Veron & Wallace (1984)

<sup>b</sup> Synonymized with *A. selago* by Veron & Wallace (1984)

<sup>c</sup> Synonymized with *A. cerealis* by Veron & Wallace (1984)

<sup>d</sup> Synonymized with *A. danae* by Veron & Wallace (1984)

<sup>e</sup> Synonymized with *A. robusta* by Veron & Wallace (1984)

Table 1 (continued)

Species	Sex	Mode	Timing	Source
<b>Pacific</b>				
<u>Central Pacific (Guam, Marshall, Islands, Palau)</u>				
<b>ACROPORIDAE</b>				
<i>Acropora squarrosa</i> <sup>f</sup>	H	S	Jul, 2–3	this study
<i>Acropora striata</i>	x	B	Jun/Jul, 3–4 Jan, 1–8	Stimson (1978)
<i>Acropora surculosa</i> <sup>g</sup>	H	S	Jul, 7–8	this study
<i>Acropora tenuis</i>	H	S	Jul, 7–8	this study
<i>Acropora valida</i>	H	x	sr	Heyward (1989)
		S	Jul, 6–7	this study
<i>Acropora variabilis</i> <sup>h</sup>	H	S	sr	Heyward (1989)
<i>Astreopora randalli</i>	H	S	Jul, 8/Aug, 1	this study
<i>Montipora foveolata</i>	H	S	Jul, 2–3	this study
<i>Montipora verrucosa</i>	H	S	Jun, 7–8 Sep, 2–3	this study
<b>CARYOPHYLLIDAE</b>				
<i>Euphyllia glabrescens</i>	x	B	x	Kawaguti (1941)
<b>DENDROPHYLLIDAE</b>				
<i>Balanophyllum</i> sp.	x	B	yr	Abe (1937)
<b>FAVIIDAE</b>				
<i>Favia mathaii</i>	H	x	sr	Heyward (1989)
		S	Jun/Jul, 6–8	this study
<i>Favia stelligera</i>	H	S	Jun/Jul, 5–7	this study
<i>Favites abdita</i>	H	S	sr	Heyward (1989)
<i>Favites flexuosa</i>	H	S	sr	Heyward (1989)
<i>Goniastrea aspera</i>	x	B	Oct/Nov, 1	Abe (1937)
<i>Goniastrea edwardsi</i>	H	S	sr	Heyward (1989)
		S	Jun/Jul, 7–8	this study
<i>Goniastrea retiformis</i>	H	S	Jul, 1–2/7–8	this study
<i>Leptoria phrygia</i>	H	x	sr	Heyward (1989)
		S	Jul, 7–8	this study
<i>Montastrea curta</i>	H	S	Aug, 6–7	this study
<i>Platygyra daedalea</i>	H	S	Jul, 7–8	this study
<i>Platygyra pini</i>	H	S	sr	Heyward (1989)
<b>FUNGIIDAE</b>				
<i>Fungia fungites</i>	G	S	sr	Heyward (1989)
<i>Heliofungia actiniformis</i>	H?	B	Sep–Apr, 1	Abe (1937)
<b>OCULINIDAE</b>				
<i>Achelia horrescens</i>	x	B	yr	Kawaguti (1941)
<i>Galaxea fascicularis</i> (as <i>G. aspera</i> )	H	S	Jul/Aug, 1–3	this study
	x	B	yr	Atoda (1951b)
<b>POCILLOPORIDAE</b>				
<i>Pocillopora damicornis</i> (as <i>P. caespitosa</i> )	H	B	yr yr, 1–3 Jun/Jul/Jan, 7–3	Hada (1932), Kawaguti (1941) Atoda (1947a) Stimson (1978)
			yr, 2–3	Richmond & Jokiel (1984)
			Jan, 3–4	Stimson (1978)
<i>Pocillopora elegans</i> ( <i>P. meandrina</i> ?)	x	B	Jan, 3–4	Stimson (1978)
<i>Pocillopora verrucosa</i>	x	B	Jun/Jul, 1–3 Jan, 1–4	Stimson (1978)
<i>Stylophora pistillata</i>	x	B	yr, 5–7	Atoda (1947b)
<i>Seriatopora hystrix</i>	x	B	sr/w, 1–5	Kawaguti (1941), Atoda (1951c), Stimson (1978)
<b>PORITIDAE</b>				
<i>Goniopora fruticosa</i>	*	*	*	this study
<i>Porites cylindrica</i>	*	*	*	this study

Note: all taxonomic assignations for Central Pacific are according to Randall (1983, pers. comm.) and samples of each species are deposited in the University of Guam Marine Laboratory reference collection

<sup>f</sup> Synonymized with *A. loripes* by Veron & Wallace (1984)

<sup>g</sup> Synonymized with *A. hyacinthus* by Veron & Wallace (1984)

<sup>h</sup> Synonymized with *A. valida* by Veron & Wallace (1984)

Table 1 (continued)

Species	Sex	Mode	Timing	Source
<b>Pacific</b>				
<u>Central Pacific (Guam, Marshall, Islands, Palau)</u>				
<i>Porites lobata</i>	G	S	Jul, 7-8	this study
<i>Porites lutea</i>	G	x	sr	Heyward (1989)
<i>Porites (Synarea) rus</i>	G	x	x	this study
		4G:28H:3*:12x	14B:28S:3*:2x	
<u>Hawaii</u>				
<u>ACROPORIDAE</u>				
<i>Acropora cytherea</i>	*	*	*	Grigg et al. (1981)
<i>Acropora humilis</i>	*	*	*	Grigg et al. (1981)
<i>Acropora valida</i>	*	*	*	Grigg et al. (1981)
<i>Montipora dilatata</i>	H	S	Jul, 5-6 Jun/Jul/Aug Jul/Aug, 5-7 Jul, 1	Heyward (1985) Heyward (1985) Hunter (1989)
<i>Montipora flabellata</i>	H	S	sr-f	Heyward (1985)
<i>Montipora studeryi</i>	H	S	Jul, 5-6	Heyward (1985)
<i>Montipora verrucosa</i> (sensu Vaughan 1907)	H	S	Jul, 1 Jun/Jul, 1	Heyward (1985) Hunter (1989)
<i>Montipora verrilli</i>	H	S	Jul, 5-6	Heyward (1985)
<u>DENDROPHYLIDAE</u>				
<i>Dendrophyllia manni</i>	x	B	sr-f	Edmondson (1929), Edmondson (1946)
<i>Tubastrea coccinea</i> (as <i>T. aurea</i> )	x	B	sr-w	Edmondson (1929), Edmondson (1946)
<u>FAVIIDAE</u>				
<i>Cyphastrea ocellina</i>	x	B	yr	Edmondson (1929), Edmondson (1946), Stimson (1978)
<u>FUNGIIDAE</u>				
<i>Fungia scutaria</i>	G	S	Jul-Sep, 5	Krupp (1983)
<u>POCILLOPORIDAE</u>				
<i>Pocillopora damicornis</i>	H	B	yr, 5-1 Jun/Jul/Aug, 1 yr, 5 yr, 6-8 yr, 3-5	Edmondson (1946), Harrigan (1972) Reed (1971) Stimson (1978)
'Type Y'				Richmond & Jokiel (1984)
'Type B'				
<u>PORITIDAE</u>				
<i>Porites compressa</i>	G	S	Jun-Aug, 5	Hunter (1988), Hunter & Hodgson unpubl.
<i>Porites evermanni</i>	G	S	Aug-Sep, 5-6	Hunter & Hodgson unpubl.
<i>Porites lobata</i>	G	S	Aug, 7-8	Hunter & Hodgson unpubl.
<i>Porites brighami</i>	x	B	sr	Hunter & Hodgson unpubl.
		4G:6H:3*:4x	5B:9S:3*	
<u>Okinawa</u>				
<u>ACROPORIDAE</u>				
<i>Acropora anthoecetes</i>	H	S	Jun, 5	Richmond pers. obs.
<i>Acropora cytherea</i>	H	S	Jun, 5	Heyward et al. (1987), Richmond pers. obs.
<i>Acropora digitifera</i>	H	S	Jun, 5	Richmond pers. obs.
<i>Acropora florida</i>	H	S	Jun, 5-8	Heyward et al. (1987), Richmond pers. obs.
<i>Acropora formosa</i>	H	S	Jun, 5-8	Heyward et al. (1987)
<i>Acropora grandis</i>	H	S	Jun, 5	Heyward et al. (1987)
<i>Acropora hyacinthus</i>	H	S	Jun, 5	Richmond pers. obs.
<i>Acropora latistella</i>	H	S	Jun, 7	Heyward et al. (1987)
<i>Acropora microthalma</i>	H	S	Jun, 7	Heyward et al. (1987)
			Jun, 5	Richmond pers. obs.
<i>Acropora nobilis</i>	H	S	Jun, 5	Richmond pers. obs.
<i>Acropora tenuis</i>	H	S	Jun, 5	K. Sakai pers. comm.
<i>Acropora valida</i>	H	S	Jun, 5	K. Sakai pers. comm.
<i>Montipora aequituberculata</i>	H	S	Jun, 5-6	Heyward et al. (1987)
<i>Montipora digitata</i>	H	S	Jun, 5-6	Heyward et al. (1987)
<i>Montipora effusa</i>	H	S	Jul, 6/Aug, 6-7	Heyward et al. (1987)

Table 1 (continued)

Species	Sex	Mode	Timing	Source				
<b>Pacific</b>								
<u>Okinawa</u>								
ACROPORIDAE								
<i>Montipora turgescens</i>	H	S	Jun, 5	Heyward et al. (1987)				
FAVIIDAE								
<i>Favia pallida</i>	H	S	Jun, 5	Heyward et al. (1987)				
<i>Favites chinensis</i>	H	S	Jun, 6–7/Jul, 7	Heyward et al. (1987)				
			Aug, 7	Heyward et al. (1987)				
<i>Goniastrea aspera</i>	H	S	Jun/Jul, 5–6	Heyward et al. (1987)				
<i>Platygyra pini</i>	H	S	Jun, 2	Heyward et al. (1987)				
<i>Platygyra ryukyuensis</i>	H	S	Jul, 7/Aug, 6–7	Heyward et al. (1987)				
FUNGIIDAE								
<i>Fungia</i> sp.	G	S	Jul, 7	Heyward et al. (1987)				
MUSSIDAE								
<i>Lobophyllia corymbosa</i>	H	S	Jun, 6	Heyward et al. (1987)				
<i>Sympphyllia recta</i>	H	S	Jun, 5	Richmond pers. obs.				
OCULINIDAE								
<i>Galaxea fascicularis</i>	H	S	Jun/Jul/Aug, 6–7	Heyward et al. (1987)				
PORITIDAE								
<i>Gonipora queenslandiae</i>	G 2G:24H	B 1B:25S	Jul/Aug	Yamazato et al. (1975)				
Eastern Pacific – work in progress								
<i>Pocillopora damicornis</i>	After 2 yr, only immature ovaries observed (spring). No complete gametogenesis, spawning or planulation observed (Richmond 1985)							
<i>Pocillopora elegans</i>	Spermaries and ovaries observed near maturity during summer (A. Yedid pers. comm.)							
<i>Tubastrea aurea</i>	Planulated Jun through Nov during both 1984 and 1985 (Richmond unpubl.)							
<u>Red Sea</u>								
ACROPORIDAE								
<i>Acropora eurystoma</i>	H	S	May/Jun, 5	Shlesinger & Loya (1985)				
<i>Acropora hemprichii</i>	H	x	x	Rinkevich & Loya (1979a)				
<i>Acropora humilis</i>	H	S	May/Jun, 7	Shlesinger & Loya (1985)				
<i>Acropora hyacinthus</i>	H	S	Jul, 3	Shlesinger & Loya (1985)				
<i>Acropora scandens</i>	H	S	Jun/Jul, 5	Shlesinger & Loya (1985)				
<i>Astreopora myriophthalma</i>	H	S	Jul/Aug/Sep, 5	Shlesinger & Loya (1985)				
FAVIIDAE								
<i>Favia favus</i>	H	S	Jun/Jul, 6–7	Shlesinger & Loya (1985)				
			Aug, 6					
<i>Favites abdita</i>	H	S	x	Rinkevich & Loya (1979a)				
<i>Goniastrea retiformis</i>	H	S	Jul/Aug, 7	Shlesinger & Loya (1985)				
<i>Platygyra lamellina</i>	H	S	Jun/Jul, 1–2	Rinkevich & Loya (1979a)				
			Aug, 1	Shlesinger & Loya (1985)				
OCULINIDAE								
<i>Galaxea fascicularis</i>	H	S	Jul/Aug/Sep, 6–7	Shlesinger & Loya (1985)				
POCILLOPORIDAE								
<i>Pocillopora verrucosa</i>	H	S	May, 1	Fadlallah (1985)				
			Jul/Aug, 1	Shlesinger & Loya (1985)				
<i>Seriatopora caliendrum</i>	H	B	May-Dec, 8–1	Rinkevich & Loya (1979a), Shlesinger & Loya (1985)				
<i>Stylophora pistillata</i>	H	B	Dec-Jul, 1–8	Loya (1976), Rinkevich & Loya (1979a, b), Shlesinger & Loya (1985)				
PORITIDAE								
<i>Alveopora daedalea</i>	H 0G:15H	B 3B:11S:1x	f-w	Shlesinger & Loya (1985)				

base, spawners outnumber brooders 168:37 (Table 3). Spawning is usually associated with higher fecundity, while brooding produces fewer, larger larvae (Fadlallah 1983).

Szmant-Froelich (1984) proposed that brooders experience the greatest recruitment success in the Caribbean, while spawners (particularly acroporids and poritids) are the more successful recruiters in the Pacific.